

Attachment No. 3

Petroleum Storage Tanks

Exhibit D

MERIT ENERGY COMPANY

Facility Name: Karon Gas Plant

TANK EMISSIONS*

2003 Emissions Inventory

<u>Tank</u>	<u>Size</u>	<u>Content</u>	<u>Standing Losses</u> (lbs/yr)	<u>Working Losses</u> (lbs/yr)	<u>Total Losses (tons/year)</u>	
TK-1	1000 bbl	crude oil	1474.4	2747.07	4221.47	2.110735
TK-2	1000 bbl	crude oil	1474.4	2747.07	4221.47	2.110735
Total					4.22147	

* Calculated using EPA - CHIEFS Tanks 4.0 Program

TANKS 4.0 **Emissions Report - Detail Format** **Tank Identification and Physical Characteristics**

Identification
User Identification: Karon No. 2 - 1000 bbl tank
City: Bishop
State: Texas
Company: Merit Energy Company
Type of Tank: Vertical Fixed Roof Tank
Description: 2004 EIS

Tank Dimensions
Shell Height (ft): 16.20
Diameter (ft): 21.00
Liquid Height (ft): 7.00
Avg. Liquid Height (ft): 6.00
Volume (gallons): 18,136.76
Turnovers: 21.98
Net Throughput (gal/yr): 398,580.00
Is Tank Heated (y/n): N

Paint Characteristics
Shell Color/Shade: Gray/Light
Shell Condition: Good
Roof Color/Shade: Gray/Light
Roof Condition: Good

Roof Characteristics
Type: Cone
Height (ft): 0.66
Slope (ft/ft) (Cone Roof): 0.06

Breather Vent Settings
Vacuum Settings (psig): -0.03
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Corpus Christi, Texas (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0 Emissions Report - Detail Format Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F)		Liquid Bulk Temp. (deg F)	Vapor Pressures (psia)		Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.		Avg.	Min.					
Crude oil (RVP 5)	Jan	69.36	62.47	73.79	3.4476	3.0202	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Feb	71.89	63.83	73.79	3.6159	3.1009	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Mar	76.13	67.15	73.79	3.9129	3.3054	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Apr	80.02	70.64	73.79	4.2019	3.5321	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	May	82.97	73.41	73.79	4.4330	3.7202	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jun	85.59	75.23	73.79	4.6457	3.8485	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Jul	86.78	75.94	73.79	4.7456	3.8990	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Aug	86.27	75.96	73.79	4.7027	3.9004	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Sep	83.78	74.61	73.79	4.4981	3.8039	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Oct	79.67	70.90	73.79	4.1755	3.5492	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Nov	74.68	67.10	73.79	3.8091	3.3021	50.0000			207.00	Option 4: RVP=5
Crude oil (RVP 5)	Dec	70.59	63.82	73.79	3.5285	3.1004	50.0000			207.00	Option 4: RVP=5

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	148.4757	164.6944	219.2736	237.2926	263.8258	290.5409	321.8442	302.8602	248.3599	227.5697	173.6126	148.7225
Vapor Space Volume (cu ft):	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773
Vapor Density (lb/cu ft):	0.0304	0.0317	0.0340	0.0363	0.0381	0.0397	0.0405	0.0401	0.0386	0.0361	0.0332	0.0310
Vapor Space Expansion Factor:	0.1269	0.1541	0.1821	0.2006	0.2136	0.2210	0.2274	0.2426	0.2072	0.1864	0.1498	0.1264
Vented Vapor Saturation Factor:	0.3444	0.3337	0.3164	0.3012	0.2900	0.2805	0.2762	0.2780	0.2870	0.3025	0.3222	0.3391
Tank Vapor Space Volume	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773	3,609.0773
Tank Diameter (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Vapor Space Outage (ft):	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200
Tank Shell Height (ft):	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000
Average Liquid Height (ft):	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Roof Outage (ft):	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200	0.2200
Roof Height (ft):	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600	0.6600
Roof Slope (ft/h):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Shell Radius (ft):	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000
Vapor Density	0.0304	0.0317	0.0340	0.0363	0.0381	0.0397	0.0405	0.0401	0.0386	0.0361	0.0332	0.0310
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.4476	3.6159	3.9129	4.2019	4.4330	4.6457	4.7456	4.7027	4.4981	4.1755	3.8091	3.5285
Daily Avg. Liquid Surface Temp. (deg. R):	529.0336	531.5606	535.8005	539.6855	542.6408	545.2552	546.4502	545.9396	543.4516	539.3395	534.3483	530.2602
Daily Average Ambient Temp. (deg. F):	55.1500	58.5000	65.5000	72.4500	77.8500	81.9000	84.0500	84.2000	81.0000	73.9000	65.7000	58.3500
Ideal Gas Constant R (psia-cu ft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558	533.4558
Tank Paint Solar Absorptance (Shell):	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400
Tank Paint Solar Absorptance (Roof):	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400	0.5400
Daily Total Solar Insulation Factor (Btu/sq ft day):	885.5006	1,132.3366	1,404.2370	1,598.0890	1,733.8806	1,929.0016	1,987.3793	1,852.2223	1,599.0408	1,367.4337	1,043.1838	842.9864
Vapor Space Expansion Factor	0.1269	0.1541	0.1821	0.2006	0.2136	0.2210	0.2274	0.2426	0.2072	0.1864	0.1498	0.1264
Daily Vapor Temperature Range (deg. R):	27.5728	32.2409	35.9201	37.4831	38.2403	41.4065	43.3692	41.2536	36.7055	35.0755	30.3169	27.0740
Daily Vapor Pressure Range (psia):	0.9019	1.0961	1.3011	1.4372	1.5301	1.7202	1.8329	1.7305	1.4855	1.3378	1.0742	0.9021
Breather Vent Press. Settling Range (psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.4476	3.6159	3.9129	4.2019	4.4330	4.6457	4.7456	4.7027	4.4981	4.1755	3.8091	3.5285
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	3.0202	3.1009	3.3054	3.5321	3.7202	3.9485	3.8990	3.9004	3.8039	3.5492	3.3021	3.1004
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3.9221	4.1970	4.6065	4.9693	5.2503	5.5687	5.7319	5.6309	5.2894	4.8870	4.3763	4.0025
Daily Avg. Liquid Surface Temp. (deg R):	529.0336	531.5606	535.8005	539.6855	542.6408	545.2552	546.4502	545.9396	543.4516	539.3395	534.3483	530.2602
Daily Min. Liquid Surface Temp. (deg R):	522.1404	523.5004	526.8205	530.3147	533.0807	534.9036	535.6079	535.8262	534.2752	530.5706	526.7691	523.4918
Daily Max. Liquid Surface Temp. (deg R):	535.9268	539.6208	544.7806	549.0563	552.2009	555.6088	557.2925	556.2530	552.6279	548.1084	541.9275	537.0287
Daily Ambient Temp. Range (deg. R):	19.7000	21.0000	20.4000	18.5000	16.7000	17.0000	18.5000	18.4000	17.4000	20.0000	20.2000	19.9000
Vented Vapor Saturation Factor	0.3444	0.3337	0.3164	0.3012	0.2900	0.2805	0.2762	0.2780	0.2870	0.3025	0.3222	0.3391
Vented Vapor Saturation Factor:												
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.4476	3.6159	3.9129	4.2019	4.4330	4.6457	4.7456	4.7027	4.4981	4.1755	3.8091	3.5285
Vapor Space Outage (ft):	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200	10.4200
Working Losses (lb):	102.2419	107.2328	116.0430	124.6139	131.4654	137.7733	140.7355	139.4638	133.3965	123.8308	112.9527	104.6408
Vapor Molecular Weight (lb/lb-mole):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.4476	3.6159	3.9129	4.2019	4.4330	4.6457	4.7456	4.7027	4.4981	4.1755	3.8091	3.5285

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)- (Continued)

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TANKS 4.0
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January , February , March , April , May , June , July , August , September , October , November , December

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Crude oil (RVP 5)	1,474.40	2,747.07	4,221.47